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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,190	10/06/2005	Claude Brun	FR-AM 1947 NP	8420
31684	7590	07/29/2009		
ARKEMA INC. PATENT DEPARTMENT - 26TH FLOOR 2000 MARKET STREET PHILADELPHIA, PA 19103-3222				
EXAMINER				
STALDER, MELISSA A				
ART UNIT		PAPER NUMBER		
1793				
NOTIFICATION DATE		DELIVERY MODE		
07/29/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/552,190

**Applicant(s)**

BRUN ET AL.

**Examiner**

MELISSA STALDER

**Art Unit**

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/88)  
Paper No(s)/Mail Date \_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 and 7-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brun (US 6,325,920).

Brun teaches a process for the sulphurization of hydrotreating catalysts where a hydrotreating catalyst made of molybdenum, tungsten, nickel or cobalt in the oxide form on a porous inorganic support. Brun teaches the use of an ester of orthophthalic acid with the general formula in claim 1 of the application where  $R^1$  and  $R^2$  can be identical or differently and represent an alkyl, cycloalkyl, aryl, alkylaryl, or arylalkyl radical where the radical can comprise 1 to 18 carbon atoms and optionally one or more heteroatoms. Brun teaches treating the catalyst with the ester of orthophthalic acid and a sulphurization agent to obtain catalysts which are more active with regard to hydrosulphurization of hydrocarbon feedstocks.

It would have been obvious to one of ordinary skill in the art at the time of the invention that the orthophthalic acid ester and the sulphurization agent can be added to the catalyst in any order to achieve the advantage of obtaining catalysts which are more

active with regard to hydrosulphurization of hydrocarbon feedstocks. It would have been obvious to one of ordinary skill in the art at the time of the invention that adding the orthophthalic acid ester and the sulphurization agent separately, at the same time or as a mixture would achieve the same purpose of providing both the ester and agent for treating the catalysts to obtain catalysts which are more active. Note that Brun et al. disclose "the joint use of a sulphurization agent and an ester or orthophthalic acid" (col. 3, lines 50-51) and "treating the catalyst with a sulphurization agent and an orthophthalic acid ester" (col. 6, lines 37-39), which broadly does not require that the agent and ester be added to the catalyst at the same time or require any order of adding and there is no mention that adding at the same time is required to achieve a more active catalyst.

Ex parte Rubin, 128 USPQ 440 (Bd. App. 1959) (Prior art reference disclosing a process of making a laminated sheet wherein a base sheet is first coated with a metallic film and thereafter impregnated with a thermosetting material was held to render prima facie obvious claims directed to a process of making a laminated sheet by reversing the order of the prior art process steps.). See also In re Burhans, 154 F.2d 690, 69 USPQ 330 (CCPA 1946) (selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results); In re Gibson, 39 F.2d 975, 5 USPQ 230 (CCPA 1930) (Selection of any order of mixing ingredients is prima facie obvious.).

Regarding claims 3-4 and 13, Brun teaches that the preferred orthophthalic acid esters are those in which the  $R^1$  and  $R^2$  symbols represent identical alkyl radicals comprising 1 to 8 carbon atoms and more particularly, can be diethyl orthophthalate.

Regarding Claim 5, Brun teaches catalyst made of molybdenum, tungsten, nickel or cobalt in the oxide form on a porous inorganic support.

Regarding claims 7-8 and 14, Brun teaches that sulphurization of a catalyst consists in treating the catalyst with hydrogen sulphide mixed with hydrogen. The sulphurizing agent is a liquid feedstock with a sulphur compound such as carbon disulphide, thiophene, dialkyl disulphides, or diaryl disulphides.

Regarding claims 9 and 15, Brun teaches that DMDS has been recommended for the sulphurization of catalysts and Brun teaches that DMDS is used at 2% by weight in a feedstock.

Regarding claims 10 and 12, Brun teaches that sulphurization of the catalyst is carried out in a hydrotreating reactor in the presence of hydrogen. This process is known as "in situ" where the sulphur compounds are used in the presence of hydrogen.

Regarding claim 11, Brun teaches a sulphurization step can be first carried out in the absence of hydrogen. Brun teaches an "ex situ" process where the catalyst is pre-activated in the absence of hydrogen outside the refinery after having been impregnated with a sulphurizing agent. Then the sulphurization is completed in the hydrotreating reactor in the presence of hydrogen.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brun (US 6,325,920) in view of Dufresne (US 6,077,803). Brun teaches the sulphurization of

hydrotreating catalysts but does not teach the dissolving the ester brought into contact with the catalyst in toluene. Dufresne teaches that the before sulfurization, the catalyst can be treated with a stabilizing agent such as an ester which may be diluted in solvent (col. 3, lines 37-63). A well known solvent used to dissolve organic compounds is toluene. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the treatment of the catalyst with Brun and the use of the stabilizing agent in toluene taught in Dufresne because the liquid stabilizing agent stabilizes the incorporation of sulfur into the pores of the catalyst.

### ***Response to Arguments***

Applicant's arguments filed April 1, 2009, have been fully considered but they are not persuasive. As the 103 rejection above states, case law has determined that combining the same steps in different order in an invention is not a patentable step. In this case, applicant's own patent is the prior art, Brun (6,325,920), which shows that when DMDS and DEP are used together on the catalyst that an RVA of up to 115 can be reached (Table 2). Applicant's current specification states an RVA [sic] of 116 with the same compounds in different order. The comparative example in the present specification uses only DMDS as in Table 2 of the prior art. The RVA with DMDS alone is 100. Applicant states that DMDS is used with SRGO however this is the feedstock. Therefore, the case law used to reject these claims is on point in these circumstances as there is no statistical difference between simultaneous sulphidation as taught by Brun '920 and step-wise sulphidation as claimed.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MELISSA STALDER whose telephone number is (571)270-5832. The examiner can normally be reached on Monday-Friday, 8:00-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Melvin Curtis Mayes can be reached on 571-272-1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MS  
July 22, 2009

/Melvin Curtis Mayes/  
Supervisory Patent Examiner, Art Unit 1793